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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:**Claims 1-4. (Canceled without prejudice or disclaimer).**

5. (New) A semiconductor device manufacturing method using a plasma processing apparatus, comprising the steps of:

measuring an ion current density of said plasma with an ion current measuring instrument, which includes a first conductive layer or a first semiconductor layer formed on or above a wafer being processed by said plasma processing apparatus, a first insulating layer formed on said first conductive layer or first semiconductor layer, a second conductive layer formed on said first insulator layer, a second insulating layer formed on and around said second conductive layer, a groove formed in said second insulating layer that reaches to the second conductive layer, thereby forming an exposed region on a bottom of the groove, and an ion current flowing region formed by a region in which a thickness of the first insulating layer is made locally thin,

checking said plasma processing apparatus using a result of said ion current density measurement, and

manufacturing said semiconductor device with said checked plasma processing apparatus.